

EXHIBIT A

STIPULATIONS TO THE
RIGHT OF WAY LEASE FOR THE
ALASKA NATURAL GAS TRANSPORTATION SYSTEM
BY AND BETWEEN
THE STATE OF ALASKA
AND
THE TRANSCANADA ALASKA COMPANY, LLC
AND THE ALASKAN NORTHWEST NATURAL GAS
TRANSPORTATION COMPANY

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1.0 DEFINITIONS

1.1 The following definitions apply to terms used in the LEASE documents, including these stipulations:

- 1.1.1 “AGENCY” means a department, agency, or other subdivision of the State having jurisdiction to issue or enforce certificates, rights-of-way, leases, permits or other authorizations with respect to the PIPELINE SYSTEM.
- 1.1.2 “BEST PRACTICABLE TECHNOLOGY AVAILABLE” means the best technology commercially available that is proven to be successful for the purpose to which it is proposed to be used and whose cost is not grossly disproportionate to the benefits expected to be derived.
- 1.1.3 “COMMISSIONER” means the Commissioner of the Department of Natural Resources of the State of Alaska, and includes the Commissioner’s delegates when a delegation of power to administer all or a portion of the provisions of this LEASE has been made.
- 1.1.4 “CONSTRUCTION” means all FIELD ACTIVITIES by the LESSEE or its contractors located on or in the general vicinity of the PIPELINE RIGHT-OF-WAY which involve more than *de minimis* physical disturbance of the existing natural land features or conditions. CONSTRUCTION includes pre-construction activities and is not limited to mean only the actual construction of the PIPELINE SYSTEM, but also includes other disturbances such as materials movements and stockpiling, development of borrow pit areas, and the establishment of work-camps and communications facilities. CONSTRUCTION excludes such FIELD ACTIVITIES as engineering surveys, soil tests, and biological studies. CONSTRUCTION also excludes any FIELD ACTIVITIES in connection with the TERMINATION of the PIPELINE SYSTEM.
- 1.1.5 “CONSTRUCTION MODE” means the type of CONSTRUCTION to be employed generally with regard to the PIPELINE.
- 1.1.6 “CONSTRUCTION SEGMENT” means a portion of the PIPELINE SYSTEM, as agreed upon by the LESSEE and the COMMISSIONER, that constitutes a complete physical entity or stage, in and of itself, which can be constructed independently of any other portion or stage of the PIPELINE SYSTEM in a designated area or between two specified geographical points.

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- 1.1.7 “DESIGN CRITERIA” means project criteria (i.e., CONSTRUCTION, including design and operational concepts) necessary to delineate the project to be constructed. At a minimum, it includes the following: criteria to be used for the FINAL DESIGN and project concepts, evaluation of data used to establish the DESIGN CRITERIA, drawings showing functional and technical requirements, reports of all test data compiled during the data collection and DESIGN CRITERIA evaluation, standard drawings (if applicable) or drawings to support structural design concepts of each typical facility or structure, proposed CONSTRUCTION MODES, outline of project specifications, sample computations to support the design, and concepts and bases for project siting.
- 1.1.8 “FEDERAL ROW GRANT” means the “Grant of Right-of-Way for the Alaska Natural Gas System’s Alaska Segment,” No. F-24538, issued by the Bureau of Land Management on December 1, 1980.
- 1.1.9 “FIELD ACTIVITY” means any LEASE-related activity conducted on or in direct support of activities on the RIGHT-OF-WAY by the LESSEE.
- 1.1.10 “FINAL DESIGN” means completed design documents suitable for bid solicitation, including contract plans and specifications; proposed CONSTRUCTION MODES; operational requirements necessary to justify designs; design analysis including summary calculations for a particular design feature; all functional and engineering criteria; summaries of engineering tests conducted and their results; and other considerations pertinent to design.
- 1.1.11 “FISH REARING AREAS” means those areas inhabited by fish during any life stage.
- 1.1.12 “FISH SPAWNING BEDS” means those areas where anadromous and resident fish deposit their eggs.
- 1.1.13 “GENERAL ROUTE” means the approximate route of the PIPELINE across STATE LAND as shown on the alignment map referred to in Exhibit B attached hereto, and it encompassing and including the lands specifically listed in Exhibit C, as such Exhibits may be amended from time to time in accordance with the provisions of the LEASE.
- 1.1.14 “HAZARDOUS SUBSTANCES” means those hazardous substances as defined by statute or regulation, as may be amended from time to time, of the Alaska Department of Environmental Conservation (AS 46.03.826(5)), the Environmental Protection Agency (42 USC 9601(14)), or as specified in writing by the COMMISSIONER in consultation

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with the Alaska Department of Environmental Conservation during the review of the LESSEE's oil and HAZARDOUS SUBSTANCES control, cleanup and disposal plan.

- 1.1.15 "HIGHWAY" means the Dalton Highway, the Alaska Highway, or other primary or secondary road systems under the jurisdiction of the Alaska Department of Transportation and Public Facilities (DOT&PF).
- 1.1.16 "LEASE" means the recordable legal instrument, as may be amended or extended according to its terms, issued by the COMMISSIONER to the LESSEE, that grants a LEASEHOLD interest in STATE LAND authorizing the CONSTRUCTION, operation, maintenance, and TERMINATION of a PIPELINE SYSTEM for the transportation of NATURAL GAS.
- 1.1.17 "LEASEHOLD" means the interest in real property granted to LESSEES under this LEASE.
- 1.1.18 "NATURAL GAS" means a gaseous mixture, principally of methane and other paraffinic hydrocarbons suitably conditioned to an acceptable specification for transportation by the PIPELINE.
- 1.1.19 "NOTICE TO PROCEED" means a written permission to initiate CONSTRUCTION of any CONSTRUCTION SEGMENT of the PIPELINE SYSTEM or certain other FIELD ACTIVITIES that is issued in accordance with Stipulation 2.18.
- 1.1.20 "OVERWINTERING AREAS" means those areas inhabited by fish between freeze-up and break-up.
- 1.1.21 "PERSON" is defined as expressly set out in AS 01.060(a)(8), as amended.
- 1.1.22 "PIPELINE" means all the facilities including the total system of pipe (whether owned or operated under a contract, agreement, or lease), located in or on the RIGHT-OF-WAY, used by a carrier for transportation of crude oil, NATURAL GAS, or products for delivery, for storage, or for further transportation, and including all pipe, pump or compressor stations, station equipment, tanks, valves, bridges, terminal and terminal facilities, operations control centers, and fire protection system, cathodic protection system, communication system, and all other facilities used or necessary for an integral line of pipe, taken as a whole, to effectuate transportation, including an extension or enlargement of the line.

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- 1.1.23 “PIPELINE SYSTEM” means all facilities on STATE LAND that are constructed or used by the LESSEE pursuant to a certificate of public convenience and necessity issued pursuant to the Natural Gas Act in connection with the CONSTRUCTION, operation, maintenance or TERMINATION of the PIPELINE. PIPELINE SYSTEM includes the PIPELINE and RELATED FACILITIES, temporary facilities, temporary use areas and material sites used by the LESSEE for the CONSTRUCTION, operation, maintenance, or TERMINATION of the PIPELINE. PIPELINE SYSTEM does not include facilities such as urban administrative offices, which are only indirectly involved in the transportation of NATURAL GAS; nor does it include facilities used by others in the production, gathering or conditioning of NATURAL GAS.
- 1.1.24 “RELATED FACILITIES” means those structures, devices, improvements and sites other than the pipe, located in or on the RIGHT-OF-WAY, the substantially continuous use of which is necessary for the operation and maintenance of the PIPELINE. RELATED FACILITIES includes, if applicable: supporting structures; compressor stations; valves and other control devices; bridges, culverts and low-water crossings; monitoring and communication devices; retaining walls, berms, dikes, ditches, cuts and fills, including hydraulic and erosion control structures; structures and areas for storing supplies and equipment; cathodic protection devices; and other facilities of a similar nature together with related yards, fences and buildings as the COMMISSIONER, after consultation with the LESSEE, shall determine to be RELATED FACILITIES. RELATED FACILITIES does not include structures, devices, improvements, sites, facilities, or areas, the use of which is temporary in nature, such as those used only for CONSTRUCTION purposes. Examples of structures, devices, improvements, sites, facilities or areas that are not RELATED FACILITIES include: temporary camps; temporary landing strips; temporary bridges; temporary access roads; temporary communication sites; temporary storage sites; and temporary disposal sites.
- 1.1.25 “REHABILITATION” means the stabilization of a disturbed site to a physical and biological condition consistent with applicable State and Federal law and regulations. REHABILITATION includes, but is not limited to, stabilization, erosion and sedimentation control, visual amelioration, habitat reconstruction, and REVEGETATION.

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- 1.1.26 “RESTORATION” means the return of a disturbed site upon completion of use to a physical and biological condition consistent with applicable State and Federal law, regulations and policies at the time and to the extent acceptable to the COMMISSIONER. RESTORATION includes, where appropriate, erosion and sedimentation control, REVEGETATION, reestablishment of native species and visual amelioration.
- 1.1.27 “REVEGETATION” means the establishment of plant cover on disturbed lands in a manner consistent with applicable State and Federal law and regulations, including Federal Energy Regulatory Commission regulations and policies. REVEGETATION may include: seedbed preparation, seeding, planting, fertilizing, mulching, and watering.
- 1.1.28 “RIGHT-OF-WAY” means the LEASEHOLD lands included within the PIPELINE corridor, as shown and described in Exhibits B, C and D to the LEASE, as such exhibits may be amended from time to time pursuant to the terms of the LEASE.
- 1.1.29 “STATE LANDS” means (1) those lands and interests therein defined as “state land” in AS 38.35.230(9), and (2) any lands and interests therein included in the FEDERAL ROW GRANT to which the STATE, subsequent to the effective date of the LEASE, obtains an interest sufficient to permit the STATE to lease such lands and interests under State law, provided that at that time such lands and interests therein are no longer subject to the FEDERAL ROW GRANT, as may be amended or extended from time to time.
- 1.1.30 “TERMINATION” means all activities connected with the expiration, cancellation, or completion of use of the RIGHT-OF-WAY.
- 1.1.31 “TRANS-ALASKA PIPELINE SYSTEM” (TAPS) means that pipeline system referred to in and authorized by the Trans-Alaska Pipeline Authorization Act, Title II, P.L. 93-153, 87 Stat. 584.
- 1.1.32 “WASTE” means all discarded matter other than CONSTRUCTION spoils. It includes, but is not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes and equipment.
- 1.1.33 “WETLANDS” means those areas defined as wetlands in State and Federal law.

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1.2 Applicability of LEASE and Stipulations

1.2.1 The following conditions shall apply to the design, CONSTRUCTION, operation, maintenance, and TERMINATION of the PIPELINE SYSTEM. Unless clearly inapplicable, the requirements and prohibitions imposed upon the LESSEE by the LEASE and these stipulations are also imposed upon the LESSEE's agents, employees, contractors, and subcontractors, and the employees of each of them.

(1) The LESSEE shall ensure compliance with these stipulations by its agents, employees, and contractors (including subcontractors at any level), and the employees of each of them.

(2) Failure or refusal of the LESSEE's agents, employees, contractors, subcontractors, or their employees to comply with these stipulations shall be deemed to be the failure or refusal of the LESSEE.

(3) Where appropriate, the LESSEE shall require its agents, employees, contractors and subcontractors to include the LEASE and these stipulations in all contracts and subcontracts which are entered into by any of them, together with a provision that the other contracting party, together with its agents, employees, contractors and subcontractors, and the employees of each of them, shall likewise be bound to comply with these stipulations.

1.2.2 Nothing in the LEASE or these stipulations shall be construed as applying to activities of the LESSEE that have no relation to the PIPELINE SYSTEM.

1.2.3 Nothing in the LEASE or these stipulations shall be construed to affect any right or cause of action that otherwise would be available to the LESSEE against any PERSON or entity. The STATE and the LESSEE do not intend to create any rights under the LEASE or these stipulations that may be enforced by third parties for their own benefit or for the benefit of others.

1.3 Changes in Conditions

1.3.1 Unforeseen conditions arising during CONSTRUCTION, operation, maintenance or TERMINATION of the PIPELINE SYSTEM may make it necessary to revise or amend these stipulations to control or prevent damage to the environment or hazards to public health and

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safety. In that event, the LESSEE and the COMMISSIONER shall agree as to what revisions or amendments shall be made.

2. GENERAL

2.1 Responsibilities

- 2.1.1 The LESSEE shall comply with these stipulations and lawful orders of the COMMISSIONER.
- 2.1.2 The LESSEE shall designate a representative who shall be empowered on behalf of the LESSEE to communicate with, and to receive and comply with, all communications and orders of the COMMISSIONER. The LESSEE shall also designate field representatives who shall be authorized and at all times be available to communicate and cooperate with field representatives of the COMMISSIONER. The LESSEE shall keep the COMMISSIONER informed of any change of the LESSEE's representatives during the CONSTRUCTION, operation, maintenance, and TERMINATION of the PIPELINE SYSTEM. All notifications and designations and changes in designations shall be in writing in accordance with Section 27 of the LEASE.
- 2.1.3 The absence of any comment by the COMMISSIONER or his designated representative on any plan, design, specification, or other document which may be filed by the LESSEE with the COMMISSIONER shall not be deemed to represent in any way whatever any assent to, approval of, or concurrence in such plan, design, specification or other document, or any action proposed therein. Any written approval or instruction by the COMMISSIONER may be relied upon by the LESSEE unless and until rescinded in writing. The COMMISSIONER will act in writing upon each submission to him in accordance with the agreed-upon schedules developed pursuant to Stipulations 2.5.1 and 3.2. Any disapproving action by the COMMISSIONER, including any requests for additional information, shall state what additional action is necessary to gain approval.
- 2.1.4 No order or notice given to the LESSEE on behalf of the COMMISSIONER shall be effective unless prior written notice of the delegation of authority to issue such order or notice has been given to the LESSEE by the COMMISSIONER.
- 2.1.5 In the implementation of Stipulation 2.1, the LESSEE will furnish all supervisory-level employees with copies of these stipulations and will explain the limitations imposed by

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these stipulations. All LESSEE employees and all supervisory level contractors shall be furnished with a copy of the LEASE and stipulations.

- 2.1.6 During the design, CONSTRUCTION, operation, maintenance, and TERMINATION of the PIPELINE SYSTEM, the LESSEE shall furnish, without cost, representatives of the State of Alaska including contractors and subcontractors involved in field surveillance of the PIPELINE SYSTEM, adequate meals, living quarters and office space, reasonable use of the LESSEE's communication systems, and reasonable surface and air transportation. For purposes of this stipulation only, the eligibility for logistic support of individuals involved in field surveillance will be determined by the COMMISSIONER. Whenever possible, the COMMISSIONER shall give the LESSEE advance written notice of the need for such services and facilities, including the number and names of persons to be accommodated.

- 2.1.7 The LESSEE shall not interfere with operations of the TRANS-ALASKA PIPELINE SYSTEM (hereinafter "TAPS"), including use of STATE LANDS covered by the TAPS right-of-way, by employees, contractors, subcontractors, and agents of the TAPS, except as may be approved in writing by the COMMISSIONER.

2.2 Communications

- 2.2.1 The LESSEE shall provide a communications capability that ensures the transmission of information required for the safe CONSTRUCTION, operation, maintenance, and TERMINATION of the PIPELINE SYSTEM.

2.3 Electronically Operated Devices

- 2.3.1 LESSEE shall, as necessary, screen, filter, or otherwise suppress any electronically operated devices installed as part of the PIPELINE SYSTEM which are capable of producing electromagnetic interference radiations so that such devices will not adversely affect the functioning of existing communications systems, including supervisory control systems used in connection with the operation of the TAPS, or navigational aids. In the event that structures such as towers or buildings are to be erected as parts of the PIPELINE SYSTEM, their positioning shall be such that they will not obstruct radiation patterns of existing line-of-sight communication systems, navigational aids, or similar systems. The LESSEE shall not obstruct radiation patterns of existing line-of-sight communication systems, navigational aids, or similar systems. The LESSEE shall

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furnish a report and calculations showing the expected signal levels to the COMMISSIONER.

2.4 Summary Network Analysis Diagrams

2.4.1 As a part of the DESIGN CRITERIA, the LESSEE shall submit a summary network analysis diagram for the PIPELINE SYSTEM to the COMMISSIONER for review and approval. The summary network analysis diagram and related plans shall be prepared employing techniques normal to the industry in sufficient detail and scope to permit the COMMISSIONER to determine if the management approach shown or implied by the network analysis and plans will facilitate the cost-effective, environmentally sound, and timely CONSTRUCTION of the PIPELINE SYSTEM consistent with the protection of public health and safety. As mutually agreed upon by the LESSEE and the COMMISSIONER, the summary network analysis diagram shall include all environmental, engineering, and CONSTRUCTION-related activities and contingencies that reasonably may be anticipated in connection with the PIPELINE SYSTEM. The summary network analysis diagram shall include or address:

- (1) data collection activities;
- (2) submittal and approval activities;
- (3) CONSTRUCTION and post-CONSTRUCTION activities;
- (4) schedule control techniques;
- (5) submittal of NOTICE TO PROCEED applications; and
- (6) other pertinent data.

These plans shall be prepared in sufficient detail and scope to permit the COMMISSIONER to determine if the management approach demonstrated in these plans will facilitate the cost-effective, environmentally sound, and timely CONSTRUCTION of the project consistent with the protection of public health and safety.

2.4.2 The summary network analysis and related plans shall indicate current and planned activities at intervals approved by the COMMISSIONER.

2.5 DESIGN CRITERIA, Plans and Programs

2.5.1 The LESSEE shall submit DESIGN CRITERIA to the COMMISSIONER. The LESSEE shall also submit comprehensive plans and/or programs (including schedules where appropriate) which shall include but not be limited to the following:

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(1) Air Quality

Plan Purpose and Objective: This plan will provide the criteria and basic methodology and serve as the basis for the detailed planning and design work for the mitigation of potential air quality impacts associated with the CONSTRUCTION and operation of a NATURAL GAS transportation PIPELINE through Alaska.

Performance Standard: The LESSEE shall implement this plan to avoid where practical or minimize potential adverse air quality impacts and to ensure that air emissions are in accordance with applicable State and Federal standards.

(2) Blasting

Plan Purpose and Objective: This plan will provide the criteria and methodology for any blasting that will be undertaken in connection with CONSTRUCTION. The plan will provide environmental as well as technical criteria including, but not limited to, environmental protection, mitigation, and RESTORATION methodology; public safety; and TAPS protection, if applicable.

Performance Standard: The LESSEE's blasting activities shall be conducted in a manner to protect employees and members of the public, avoid where practical or minimize impacts to the fish and wildlife resources, and protect public and private structures including TAPS.

(3) Camps

Plan Purpose and Objective: This plan will provide the criteria and basic methodology and serve as the basis for the detailed design, CONSTRUCTION, and operation of the temporary construction camps and airfields required during the CONSTRUCTION of NATURAL GAS transportation PIPELINE facilities. The plan will include a description of camp demobilization.

Performance Standard: The LESSEE shall construct camps in accordance with all applicable State, Federal and local codes and standards, and conditions of the

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LEASE. The LESSEE shall utilize camp locations used during TAPS or HIGHWAY construction to the extent feasible, subject to Section 20 of the LEASE.

(4) Clearing

Plan Purpose and Objective: This plan will provide the criteria used to determine the clearing boundaries, method of disposal, use or storage of overburden, slash, timber and other vegetation.

Performance Standard: The LESSEE shall provide a clearing plan detailing clearing methods for pre-construction, CONSTRUCTION, operation and maintenance activities. The plan shall include methods addressing disposal, utilization or storage of slash and overburden, timber and other vegetation. In addition, buffer zones and visual effects shall be addressed. The plan shall also include brushing methods for the operational phase of the PIPELINE SYSTEM.

(5) Corrosion Control

Plan Purpose and Objective: This plan will serve as the basis for the integrity program and will describe the methods to be used for early detection of corrosion.

Performance Standard: The LESSEE shall have an approved integrity management program, which shall include corrosion protection, mitigation, assessment, and repair, and be based upon best practicable industry practices, applicable laws, regulations and NACE standards.

(6) Cultural Resource Preservation

Plan Purpose and Objective: This plan will show how cultural resources will be protected during the CONSTRUCTION, operation and maintenance or other activities.

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Performance Standard: The LESSEE shall develop, establish and maintain a Cultural Resource Protection Program to preclude negative impacts to significant cultural resources by avoidance or, if this is not possible, to preserve significant data. The LESSEE will coordinate with the Alaska State Historic Preservation Office in the development of a project-specific Programmatic Agreement for Cultural Resource Protection.

(7) Environmental Briefings

Plan Purpose and Objective: This plan will provide a continuing education program for management and the labor force to ensure that environmental concerns are properly addressed.

Performance Standard: The LESSEE shall ensure that all employees will be provided with the knowledge to perform work in a manner that complies with all State and Federal statutes, regulations and policies pertaining to the protection of fish, wildlife and other environmental resources; LEASE stipulations; and permit conditions required by regulatory agencies.

(8) Erosion and Sedimentation Control

Plan Purpose and Objective: This plan will provide the criteria and basic methodology for developing detailed designs and procedures to control erosion and sedimentation during CONSTRUCTION and operation of a NATURAL GAS transportation PIPELINE project.

Performance Standard: The LESSEE shall implement methods described in this plan to minimize project-related erosion and sedimentation in streams, rivers and WETLANDS.

(9) Fire Control

Plan Purpose and Objective: This plan will identify methods that will be used to prevent and suppress fires near the RIGHT-OF-WAY and RELATED FACILITIES.

Performance Standard: The LESSEE shall utilize approved measures described in this plan to prevent and suppress fires on or near the RIGHT-OF-WAY and its RELATED FACILITIES.

(10) Liquid WASTE Management

Plan Purpose and Objective: This plan will provide the criteria and basic methodology and serve as the basis for the detailed planning and design work for the collection, transportation, management, and disposal of WASTES generated by CONSTRUCTION and operations of a NATURAL GAS transportation PIPELINE.

Performance Standard: The LESSEE shall develop, establish and maintain a liquid WASTE management program to implement the prevention, minimization, and the proper collection, handling, transport and disposal of the liquid waste produced by all phases of the project including pre-construction, CONSTRUCTION, operation and maintenance, and TERMINATION. The plan shall provide the methods used to manage point source and non-point source liquid WASTE in accordance with applicable State, Federal, and local government codes and standards.

(11) Material Exploration and Extraction

Plan Purpose and Objective: This plan will provide a comprehensive discussion of the criteria and methodology for siting, developing, operating, and restoring material sites needed for the project and for spoil disposal from the sites.

Performance Standard: The LESSEE's plan shall describe the criteria and methodology for siting, developing, operating, and restoring material sites needed for the project and disposal of spoil from the sites in a manner that minimizes environmental and social impacts.

(12) Oil and HAZARDOUS SUBSTANCES Control, Cleanup and Disposal

Plan Purpose and Objective: This plan will provide the detailed procedures for assessment and cleanup of oil and HAZARDOUS SUBSTANCE contamination that may be encountered during any FIELD ACTIVITY, and will provide the criteria and basic methodology for a comprehensive management program to control, cleanup, and dispose of oil and HAZARDOUS SUBSTANCES used in the CONSTRUCTION and operation of a NATURAL GAS transmission PIPELINE.

Performance Standard: The LESSEE shall develop, establish and maintain a comprehensive “Oil and HAZARDOUS SUBSTANCE Contamination Program”, providing the methods to be used to integrate the assessment, prevention, minimization, collection, handling, transport and disposal of oil and HAZARDOUS SUBSTANCES in accordance with all applicable State and Federal requirements during FIELD ACTIVITIES, CONSTRUCTION, operation and maintenance and TERMINATION of the PIPELINE SYSTEM.

(13) Overburden and Excess Material Disposal

Plan Purpose and Objective: This plan will ensure that overburden and excess materials are disposed of in a manner that protects the environment and that overburden to be used for RESTORATION purposes is properly stored.

Performance Standard: The LESSEE shall dispose of spoil material within the RIGHT-OF-WAY CONSTRUCTION zone to the extent practical. The placement of the spoil material shall utilize techniques to avoid or minimize environmental disturbance, such as impacts to vegetation. If the spoil material cannot be completely distributed within the RIGHT-OF-WAY, the LESSEE shall develop approved spoil disposal sites. Mineral and organic materials useable for

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REHABILITATION and RESTORATION purposes shall be segregated from other materials and stored for future use.

(14) Pesticides, Herbicides, Chemicals

Plan Purpose and Objective: This plan will provide the criteria and basic methodology to develop a comprehensive management program for the control, use, cleanup, and disposal of pesticides, herbicides, and chemicals used in the CONSTRUCTION and operation of a NATURAL GAS transportation PIPELINE.

Performance Standard: The LESSEE shall use only non-persistent and immobile types of pesticides, herbicides and other chemicals currently registered by the Environmental Protection Agency and the STATE. Each chemical to be used and its application constraint shall comply with applicable State regulation. All applications will be conducted by a certified pesticide applicator in the category of "Right of Way" or any other appropriate category or supervised on site by a certified pesticide applicator. Pesticides should be transported, stored and disposed of according to the label and applicable laws and regulations.

(15) PIPELINE Contingency

Plan Purpose and Objective: This plan will describe measures to plan and prepare for PIPELINE failures.

Performance Standard: The LESSEE shall develop plan(s) to address uncontrollable events that could have a significant adverse impact on the operation or integrity of the PIPELINE and its appurtenances, or that could be hazardous to PERSONS or property. The LESSEE shall include provisions for NATURAL GAS control, specify that the action agencies responsible for contingency plans in Alaska shall be among the first to be notified in the event of any PIPELINE failure resulting in an NATURAL GAS release, provide for immediate corrective action including control of the release and RESTORATION

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of the affected resource, and allow for approval of any disposal sites or techniques selected to handle disposal of materials.

(16) Quality Assurance/Quality Control

Plan Purpose and objective: This plan will ensure that the LESSEE (including sub-contractors and vendors) PIPELINE activities comply with all State, Federal, and local government laws and other requirements, industry codes and standards and internal policy and programmatic requirements.

Performance Standard: In accordance with Stipulation 2.6, the LESSEE's quality assurance/control program shall be comprehensive and designed to assure that the applicable requirements of 49 CFR Part 192 and the environmental and technical stipulations of the LEASE will be incorporated in the FINAL DESIGN and complied with throughout all phases of pre-construction, CONSTRUCTION, operation and maintenance and TERMINATION of the PIPELINE SYSTEM. The quality assurance/control program shall document compliance with the LEASE.

(17) RESTORATION

Plan Purpose and Objective: This plan will describe the practicable methodologies to return disturbed lands to a natural condition.

Performance Standard: Upon completion of use, the LESSEE shall restore disturbed areas to an acceptable condition as outlined in the approved plan and in accordance with Stipulation 6.1 to the satisfaction of the COMMISSIONER.

(18) River Training Structures

Plan Purpose and Objective: This plan will develop a process to monitor rivers and streams along the RIGHT-OF-WAY for bank erosion. The plan shall also include a description of the river training structures.

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Performance Standard: The LESSEE shall implement measures to protect the PIPELINE from river and stream bank erosion in accordance with all applicable State and Federal requirements and Stipulation 2.15.4. Bank protection and river training structures shall be used when required to stabilize eroding banks and to control the flow along a pre-selected alignment. In addition to those described in the approved plan, the following structure types are suitable for use in arctic and sub-arctic streams: revetments, channel stabilization aprons, spurs, guide banks, dike plugs, biological stabilization techniques, and stabilization using natural materials.

(19) Solid WASTE Management

Purpose and Objective: This plan will provide the detailed procedures for safe disposal of solid WASTES generated during any FIELD ACTIVITY.

Performance Standard: The LESSEE shall develop, establish and maintain a comprehensive Waste Management Program pursuant to all applicable State, Federal and local requirements for the prevention, minimization, and the proper collection, handling, transport and disposal of the WASTES produced during all phases of the project including CONSTRUCTION, operation and maintenance, and TERMINATION.

(20) Stream, River and Floodplain Crossings

Plan Purpose and Objective: This plan will provide DESIGN CRITERIA and basic methodologies for the various crossing structures that will be used in PIPELINE CONSTRUCTION to minimize impacts to fish passage, water quality, sedimentation and erosion by maintaining natural flow regimes.

Performance Standard: The LESSEE's stream and river flood plain crossings shall not significantly alter the natural flow regime of those waterbodies, except during CONSTRUCTION and maintenance of these structures. CONSTRUCTION and maintenance-related disturbance to streambanks shall be stabilized to prevent

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project-related erosion and rehabilitated as required. Installation of structures in fish streams shall be approved by the COMMISSIONER.

(21) Surveillance and Maintenance

Plan Purpose and Objective: This plan will describe the LESSEE's program to surveil and maintain the PIPELINE SYSTEM and RIGHT-OF-WAY.

Performance Standard: The LESSEE shall conduct a surveillance and maintenance program applicable to the sub-arctic and arctic environment. This program shall be designed in accordance with Stipulation 2.14 to protect public health and safety; prevent damage to natural resources; prevent project-related erosion; and maintain PIPELINE integrity.

(22) Visual Resources

Plan Purpose and Objective: This plan will describe how visual resources will be protected or mitigated during CONSTRUCTION, operation and maintenance, and TERMINATION of the PIPELINE SYSTEM.

Performance Standard: The LESSEE shall prevent or mitigate, to the extent practicable, impacts to visual resources during pre-construction, CONSTRUCTION, operation and maintenance, and TERMINATION activities.

(23) WETLANDS CONSTRUCTION

Plan Purpose and Objective: This plan will describe methodologies that will be used to minimize impacts to WETLANDS habitats.

Performance Standard: The LESSEE shall minimize the alteration of drainage patterns in WETLANDS. The effects of frost bulb growth on groundwater flow in sensitive WETLANDS shall be minimized or avoided. Clearing of trees, brush and tall vegetation shall also be minimized to reduce impacts to WETLANDS. CONSTRUCTION in WETLANDS shall, to the extent possible, be scheduled

when the ground is frozen. For WETLAND CONSTRUCTION, the NOTICE TO PROCEED package shall include relevant information on the following: cross drainage control, erosion control, siltation control, clearing, re-grading, and REVEGETATION.

(24) Seismic

Plan Purpose and Objective: This plan will describe the measures to be employed to protect the PIPELINE SYSTEM from seismic activity.

Performance Standard: The PIPELINE SYSTEM shall be designed, where technically feasible and practicable, by appropriate application of modern, state-of-the-art seismic design procedures to prevent any NATURAL GAS leakage from the effects (including seismic shaking, ground deformation and earthquake-induced mass movements) of earthquakes along the route as provided in Stipulation 2.17.2 Environmental damage from a leak shall be minimized by special design provisions that shall include, but not be limited to: a network of ground-motion detectors that continuously monitor, record and instantaneously signal the occurrence of ground motion in the vicinity of the PIPELINE reaching the operational design level; and rapid programmed shutdown of the PIPELINE and prompt close inspection of system integrity in the event of ground motion reaching the contingency design level. Prior to applying for a NOTICE TO PROCEED for any CONSTRUCTION SEGMENT, the LESSEE shall satisfy the COMMISSIONER that all recognizable or reasonably inferred faults or fault zones along the alignment within that segment have been identified and delineated, and that the risk of NATURAL GAS leakage resulting from fault movement and ground deformation has been adequately assessed and provided for in the design of the PIPELINE for that segment. Evaluation of said risk shall be based on geologic, geomorphic, geodetic, seismic, and other appropriate scientific evidence of past or present fault behavior and shall be compatible with design earthquakes tabulated above and with observed relationships between earthquake

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magnitude and extent and amount of deformation and fault slip within the fault zone.

(25) Human/Carnivore Interaction

Plan Purpose and Objective: This plan will provide design criteria and basic methodologies for various pipeline activities that will be used to minimize human/carnivore interactions and will describe the measures to be employed to provide employees with adequate training and knowledge to deal with the potential dangers associated with interactions between humans and bears and other carnivores.

Performance Standard: The LESSEE shall minimize the occurrence of human-carnivore interactions during pre-construction, CONSTRUCTION, operation and maintenance, and TERMINATION activities by taking measures to prevent interactions between humans and carnivores. This plan shall contain personnel safety guidelines developed in consultation with the Alaska Department of Fish and Game (hereinafter “ADF&G”).

These plans and programs may be combined as appropriate. The COMMISSIONER shall approve the scope, content and schedule for submission of the requested plans and programs. Any aspects of these plans and programs or the DESIGN CRITERIA that are likely to have a significant impact upon other facilities (such as HIGHWAYS or the TAPS) will be coordinated by the LESSEE with the owners of such other facilities during their development. The LESSEE, in particular, will coordinate with the STATE regarding the PIPELINE SYSTEM alignment between Delta Junction and the Canadian border with respect to proposed or future realignments of the Alaska Highway between those two locations, giving due consideration to such proposed HIGHWAY realignments as shown in documents provided to the LESSEE by the STATE, such as any Federally approved environmental impact statement for the proposed HIGHWAY realignment projects, the latest of any existing State reconnaissance reports, and segmented HIGHWAY project design documents. Coordination means providing the facility owner

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an opportunity to review and comment upon relevant parts of the plans and programs.

The LESSEE will reasonably take these comments into consideration. Coordination does not necessarily mean concurrence. Evidence of such coordination must be provided in support of any application for a NOTICE TO PROCEED. In determining the acceptability of the DESIGN CRITERIA and the plans required in Stipulation 2.5.1, the COMMISSIONER will consider suggestions or objections submitted by owners of affected facilities.

2.5.2 The DESIGN CRITERIA, including the plans and programs specified in Stipulation 2.5.1, shall be approved in writing by the COMMISSIONER and shall be complied with by the LESSEE.

2.5.3 Additional or supplementary plans may be required in the event that the plans submitted in accordance with Stipulation 2.5.1 do not provide the detailed and/or site-specific data required to support the FINAL DESIGN required in Stipulation 2.4, or to guide the conduct of the CONSTRUCTION, operation, maintenance and TERMINATION of the PIPELINE SYSTEM.

2.6 Quality Assurance and Control

2.6.1 The quality assurance and quality control programs shall be comprehensive and designed to assure that the applicable requirements of 49 CFR Part 192 and the environmental and technical stipulations will be incorporated in the FINAL DESIGN and complied with throughout all phases of CONSTRUCTION, operation, maintenance and TERMINATION of the PIPELINE SYSTEM. The LESSEE shall provide for continuous inspection of PIPELINE CONSTRUCTION to ensure compliance with the approved design specifications and these stipulations. The term “continuous inspection” as used in this stipulation means that at least one inspector is observing each PIPELINE CONSTRUCTION operation where PIPELINE integrity is involved, (e.g., the pipe gang, backend welders, weld nondestructive testing, coating and wrapping, bedding, lowering-in, padding and backfill), at all times while that CONSTRUCTION is being performed or where PIPELINE CONSTRUCTION operations are proximate to the TAPS.

2.6.2 At a minimum, the Quality Assurance Program shall document the LESSEE’s compliance with this LEASE, and shall include the following:

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- (1) Procedures for the detection and prompt abatement of any actual or potential procedure, activity, event or condition, of an adverse nature, that:
 - (a) is susceptible to abatement by the LESSEE;
 - (b) could reasonably be expected to arise out of, or affect adversely, design, CONSTRUCTION, operation, maintenance, or TERMINATION of all or any part of the PIPELINE SYSTEM; and
 - (c) at any time may cause or threaten to cause:
 - (1) a hazard to the safety and health of workers or to public health or safety, including but not limited to personal injury or loss of life of any PERSON;
 - (2) significant damage to the environment, as determined by the COMMISSIONER, including but not limited to areas of vegetation or timber, fish or other wildlife populations or their habitats, or any other natural resources;
 - (3) significant damage to existing private or public improvements on or in the general vicinity of the RIGHT-OF-WAY area; or
 - (4) reasonably preventable conflicts with the communities proximate to the PIPELINE route.
- (2) Procedures for the relocation, repair or replacement of improved or tangible property and the REHABILITATION of natural resources (including but not limited to REVEGETATION, restocking fish populations, and reestablishing fish and wildlife habitats) seriously damaged or destroyed if the immediate cause of the damage or destruction results from CONSTRUCTION, operation, maintenance, or TERMINATION of all or any part of the PIPELINE SYSTEM;
- (3) Methods and procedures for achieving component and subsystems quality through proper design and specification;
- (4) Methods for applying quality assurance and quality inspection criteria in the selection of the LESSEE's contractors and subcontractors, and contract purchases of materials and services;

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- (5) A plan for collecting, recording, storing, retrieving, and reviewing data to assure that quality has been attained, including procedures for initiating and maintaining adequate records of inspections, identification of deviations and completion of corrective actions;
- (6) Specific methods of detecting deviations from designs, plans, regulations, specifications, stipulations and permits (including establishing effective procedures for timely evaluation and correction of field non-conformance problems) as the basis for initiating corrective action to preclude or rectify the hazards, harm or damage referenced in Stipulations 2.6.2(1) and 2.6.2(2) of these stipulations;
- (7) Inspection, testing and acceptance of components, subsystems and subassemblies; and
- (8) A plan for conducting surveys and field inspections of all facilities, processes and procedures of the LESSEE, its contractors, subcontractors, vendors and suppliers critical to the achievement of quality.

2.7 Reporting

2.7.1 On or before January 31 of every year this LEASE is in effect following the first LEASE anniversary date, the LESSEE must submit an annual comprehensive report to the COMMISSIONER on the state of the PIPELINE SYSTEM and PIPELINE activities. The report shall address, at a minimum:

- (1) the results of the LESSEE's surveillance and monitoring program during the preceding year, including annual and cumulative changes in facilities and operations, the effects of the changes, and proposed actions to be taken as a result of the noted changes;
- (2) the state of, changes to, and results in the last year from the LESSEE's risk management program, Quality Assurance Program, and internal and external safety programs;
- (3) LESSEE's performance under the LEASE stipulations;
- (4) other information on CONSTRUCTION, operations, maintenance, and TERMINATION activities necessary to provide a complete and accurate

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representation of the state of the PIPELINE SYSTEM and LESSEE's PIPELINE activities; and

- (5) a description of activities resulting in a Notice of Violation, if any, and the actions taken to remedy each.

2.8 Health and Safety

- 2.8.1 The LESSEE shall take measures necessary to protect the health and safety of all PERSONS directly affected by activities performed by the LESSEE in the general vicinity of the RIGHT-OF-WAY or permit area in connection with CONSTRUCTION, operation, maintenance or TERMINATION of the PIPELINE SYSTEM, and shall immediately abate any health or safety hazards. The LESSEE shall notify the COMMISSIONER of accidents which occur in connection with such activities in a manner consistent with the Occupational Safety and Health Administration reporting requirements.

2.9 Public and Private Improvements

- 2.9.1 The LESSEE shall provide reasonable protection to existing public or private improvements on STATE LANDS which may be adversely affected by its activities with regard to the PIPELINE SYSTEM or those of its agents, employees, contractors (including subcontractors) and the employees of each of them during CONSTRUCTION, operation, maintenance, and TERMINATION of the PIPELINE SYSTEM. This protection shall specifically be provided to the HIGHWAY and its appurtenances and the TAPS. If it is determined that the LESSEE has caused damage to such public and private improvements, and if the owner so requires, then the LESSEE shall promptly repair, or reimburse the owner for reasonable costs in repairing the property to a condition which is satisfactory to the owner but need not exceed its condition prior to damage. Nothing in this stipulation shall be construed to impose any liability for indirect or consequential damages upon the LESSEE.

2.10 Fire Prevention and Suppression

- 2.10.1 The LESSEE shall promptly notify the COMMISSIONER of any fires on, or which may threaten any portion of, the PIPELINE SYSTEM and shall take all measures necessary or appropriate for the prevention and suppression of fires in accordance with applicable law. The LESSEE shall comply with the instructions and directions of the COMMISSIONER

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concerning the use, prevention and suppression of fires on STATE LANDS. Use of open fires in connection with the CONSTRUCTION, operations, maintenance, and TERMINATION of the PIPELINE SYSTEM is prohibited on STATE LANDS unless authorized in writing by the COMMISSIONER. The LESSEE shall promptly notify the owners of the TAPS of any fires on, or which may threaten any portion of, the TAPS.

2.11 Survey Monuments

2.11.1 The LESSEE shall mark and protect all survey monuments encountered during CONSTRUCTION, operation, maintenance, and TERMINATION of the PIPELINE SYSTEM. These monuments are not to be disturbed; however, if disturbance of a monument or any of its accessories becomes necessary, the LESSEE will notify the COMMISSIONER in writing before any such disturbance occurs, and the COMMISSIONER will provide instructions. A written report to the COMMISSIONER will also be made immediately by the LESSEE in the event that any monuments or accessories are inadvertently damaged.

2.11.2 If any public land survey monuments, corners, or accessories (excluding geodetic survey monuments) of the United States or survey monuments of others, are destroyed or damaged during the CONSTRUCTION, operation, maintenance, or TERMINATION of the PIPELINE SYSTEM, the LESSEE shall employ a qualified land surveyor to reestablish or restore same in accordance with the "Manual of Instructions for the Survey of Public Lands" of the Bureau of Land Management and shall record such survey in the appropriate records. Additional requirements for the protection of monuments, corners, and bearing trees on STATE LANDS may be prescribed by the COMMISSIONER.

2.12 Use of Existing Facilities

2.12.1 Subject to existing rights vested in other PERSONS, the LESSEE shall use existing facilities to the extent practical in all CONSTRUCTION, operation, maintenance, and TERMINATION activities associated with the PIPELINE SYSTEM, consistent with the approved design and route of the PIPELINE SYSTEM; provided, however, that nothing in this stipulation shall require the LESSEE to use existing facilities if doing so could involve risk to health or safety or the environment as a result of the prior use thereof. The LESSEE shall determine the suitability of such sites for the purposes intended.

2.13 Regulation of Access

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- 2.13.1 The LESSEE shall provide, as necessary, and maintain access roads and airstrips, the number, location and the standards of which shall be approved by the COMMISSIONER to provide for continuing maintenance and surveillance of the PIPELINE SYSTEM.
- 2.13.2 During CONSTRUCTION or TERMINATION activities, the LESSEE may regulate or prohibit public access to or upon any access road being used for such activity with the approval of the COMMISSIONER. At all other times the LESSEE shall permit free and unrestricted public access to and upon access roads except that with the written consent of the COMMISSIONER, the LESSEE may regulate or prohibit public access and vehicular traffic on access roads, as required to facilitate operations or to protect the public, wildlife and livestock from hazards associated with the operation and maintenance of the PIPELINE. The LESSEE shall provide appropriate warnings, flagmen, barricades, and other safety measures when the LESSEE is using access roads or regulating public access to or upon access roads.
- 2.13.3 During CONSTRUCTION of the PIPELINE, the LESSEE shall provide alternative routes for existing HIGHWAYS, trails and access roads at locations, and to standards, as determined by the COMMISSIONER whether or not these HIGHWAYS, trails or access roads are recorded.
- 2.13.4 The LESSEE shall make provisions for suitable permanent crossings prior to completion of a CONSTRUCTION SEGMENT for the public at locations designated by the COMMISSIONER. The LESSEE shall prepare and submit for approval to the COMMISSIONER a design for each crossing. The design shall be approved in writing by the COMMISSIONER where the RIGHT-OF-WAY crosses existing HIGHWAYS, trails, access roads, or other rights-of-way.
- 2.14 Surveillance and Maintenance
- 2.14.1 During the CONSTRUCTION, operation, maintenance and TERMINATION phases of the PIPELINE SYSTEM, the LESSEE shall conduct a surveillance and maintenance program applicable to the sub-arctic and arctic environment. This program shall, with respect to the LESSEE's activities, be designed to ensure that all activities associated with the PIPELINE will:
- (1) protect public health and safety;
 - (2) prevent and control damage to natural resources;

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- (3) prevent and control project-related erosion;
- (4) maintain PIPELINE integrity;
- (5) control damage to public and private property;
- (6) prevent damage to the HIGHWAY SYSTEM or TAPS from the LESSEE's activities including the activities of its agents, employees, contractors (including subcontractors) and the employees of each of them, in connection with the PIPELINE; and
- (7) avoid to the extent practicable conflicts with established patterns of land-use and human settlement proximate to the PIPELINE route.

2.14.2 The LESSEE shall maintain complete and up-to-date records on CONSTRUCTION, operation, maintenance, and TERMINATION activities performed in connection with the PIPELINE SYSTEM. Such records shall include surveillance data, leak and failure records, necessary operational data, modification records, and such other data as may be required by 49 CFR Parts 191 and 192 and other applicable State and Federal laws and regulations.

2.15 Environmental

2.15.1 As set forth specifically elsewhere in these stipulations, the LESSEE shall comply with all applicable State and Federal laws and regulations, including the FERC regulations and policies. The FERC regulations, 18 CFR Section 157.14(a)(6-a), require an applicant requesting a certificate of public convenience and necessity to submit an environmental report, as specified in 18 CFR Sections 380.3 and 380.12, containing substantial information regarding the potential environmental impacts of the project and the project's compliance with Federal environmental laws, including the Clean Water Act, Clean Air Act, National Historic Preservation Act, Coastal Zone Management Act, and Endangered Species Act. These Federal requirements expressly require coordination with, and approval by, State environmental authorities.

2.15.2 Environmental Briefings

2.15.2.1 The LESSEE shall develop and provide environmental briefings for supervisory and field personnel directly related to the project and for State field representatives in accordance with the approved environmental briefings plan required by Stipulation 2.5.1.

2.15.3 Pollution Control

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2.15.3.1 The LESSEE shall construct, operate, maintain, and terminate the PIPELINE SYSTEM in a manner that will avoid or minimize degradation of air, land and water quality. The LESSEE shall comply with applicable air and water quality standards and State laws and regulations relating to pollution control or prevention.

2.15.3.2 Water, Air and Land Pollution

2.15.3.2.1 The LESSEE shall comply with applicable State “Water Quality Standards” and “Ambient Air Quality Standards” as approved by the Environmental Protection Agency, and with the requirements of the State construction, minor and operating permit programs, State Wastewater Disposal Regulations, and with the requirements of the Environmental Protection Agency’s National Pollutant Discharge Elimination System Discharge permit program.

2.15.3.2.2 Mobile ground equipment shall not be operated in lakes, WETLANDS, streams or rivers unless such operation is approved in writing by the COMMISSIONER.

2.15.3.2.3 The temperature of the natural ground or of the natural surface or ground waters shall not be changed significantly by the PIPELINE SYSTEM or by any CONSTRUCTION related activities unless approved in writing by the COMMISSIONER.

2.15.3.2.4 The LESSEE shall comply with the standards for thermal pollution in the State “Water Quality Standards,” as approved by the Environmental Protection Agency.

2.15.3.3 Pesticides, Herbicides And Other Chemicals

2.15.3.3.1 Where possible, the LESSEE shall use non-persistent and immobile types of pesticides, herbicides and other chemicals. Only those pesticides and herbicides currently registered by the Environmental Protection Agency pursuant to the Federal Insecticide, Fungicide and Rodenticide Act and/or by the STATE shall be applied. Applications of pesticides and herbicides shall be in accordance with label directions approved by the Environmental Protection Agency. All applications will be conducted by a certified pesticide applicator in the category of "Right of Way" or any other appropriate category or supervised on site by an appropriately certified pesticide applicator. Pesticides shall be transported, stored and disposed of according to the label and applicable laws and regulations. Each chemical to be used and its application constraints shall be approved in writing by the COMMISSIONER prior to use.

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2.15.3.4 Sanitation and WASTE Disposal

2.15.3.4.1 All HAZARDOUS SUBSTANCES and WASTE generated in CONSTRUCTION, operation, maintenance and TERMINATION of the PIPELINE SYSTEM shall be removed or otherwise disposed of in a manner acceptable to the COMMISSIONER. All applicable State and Federal requirements will be incorporated in the plans required in Stipulation 2.5.1.

2.15.3.5 Ice Fog

2.15.3.5.1 The LESSEE shall utilize and operate all facilities and devices used in connection with the PIPELINE SYSTEM so as to avoid, where practical, or minimize the production of ice fog. Facilities and devices which cannot be prevented from producing ice fog shall be located so as to minimize interference with airfields, communities, or roads.

2.15.4 Erosion and Sedimentation Control

2.15.4.1 The LESSEE shall perform all PIPELINE SYSTEM activities so as to minimize disturbance to all surface areas.

2.15.4.1.1 The design of the PIPELINE SYSTEM shall provide for the control of project-related erosion and sediment production, transport and deposit.

2.15.4.1.2 Surface materials suitable for use in RESTORATION that are taken from disturbed areas shall be stockpiled and utilized during RESTORATION unless otherwise approved in writing by the COMMISSIONER. Erosion and sediment control practices to be utilized shall be determined by the needs of specific sites and, as appropriate, shall include but not be limited to REVEGETATION, mulching, and placement of mat binders, soil binders, and rock or gravel blankets or structures.

2.15.4.2 Erosion Control Measures

2.15.4.2.1 Erosion control measures, including the use of erosion control structures, if necessary, shall be implemented in accordance with the plans approved under Stipulation 2.5.1, to limit induced and accelerated erosion, limit sediment production and transport, and lessen the possibility of forming new drainage channels. The design of such measures shall be based on the rainfall rate and snowmelt combination characteristic of the region, the effects of thawing produced by flowing or ponded water on permafrost, and the effects of ice. Permanent erosion control structures shall be designed to accommodate a fifty (50) year flood.

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2.15.4.3 Crossing of Streams, Rivers, Floodplains and WETLANDS

2.15.4.3.1 The LESSEE shall minimize project-related erosion and sedimentation at stream, river and WETLANDS crossings and those parts of the PIPELINE SYSTEM within floodplains as provided in Stipulation 2.5.1.

2.15.4.3.2 Temporary access over stream-banks for trenching activities shall be made through use of fill ramps rather than by cutting through stream-banks, unless otherwise approved in writing by the COMMISSIONER. The LESSEE shall remove such ramps upon termination of seasonal or final use. Ramp materials shall be disposed of in a manner approved in writing by the COMMISSIONER.

2.15.4.3.3 The creation of any permanent obstruction to the passage of small craft in streams is prohibited.

2.15.5 Fish and Wildlife Protection

2.15.5.1 FISH SPAWNING BEDS, FISH REARING AREAS, and OVERWINTERING AREAS

2.15.5.1.1 The LESSEE shall design, construct, operate, maintain and terminate the PIPELINE SYSTEM so as to assure free passage and movement of fish in streams designated by the COMMISSIONER. Temporary blockages of fish necessitated by in-stream activities may be approved. The proposed designs and CONSTRUCTION plans shall include the time and place that such temporary blockages may occur. Pump intakes shall be screened to prevent harm to fish. Screening specifications shall be approved by the COMMISSIONER.

2.15.5.1.2 When abandoned, water diversion structures shall be removed or plugged and stabilized unless otherwise approved in writing by the COMMISSIONER.

2.15.5.1.3 The LESSEE shall avoid disturbances to those FISH SPAWNING BEDS, FISH REARING AREAS and OVERWINTERING AREAS designated by the COMMISSIONER. However, where disturbances cannot be avoided, proposed modifications and appropriate mitigation measures shall be designed by the LESSEE and approved in writing by the COMMISSIONER. The COMMISSIONER will endeavor to satisfy reasonable requests by the LESSEE for expedited approval.

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2.15.5.1.4 The LESSEE shall protect FISH SPAWNING BEDS, FISH REARING AREAS, and OVERWINTERING AREAS from sediment where soil material is expected to be suspended in water as a result of CONSTRUCTION activities. Settling basins or other sediment control structures shall be constructed and maintained to intercept such sediment before it reaches rivers, streams, lakes or WETLANDS.

2.15.5.1.5 The LESSEE shall comply with any site-specific terms and conditions imposed by the COMMISSIONER to protect FISH SPAWNING BEDS, FISH REARING AREAS, and OVERWINTERING AREAS from the effects of the LESSEE's activities. If material sites are approved adjacent to or in lakes, rivers, streams, WETLANDS, or floodplains, the COMMISSIONER may require the LESSEE to construct levees or berms or employ other suitable means to protect fish and fish passage and to prevent or minimize sedimentation related to the LESSEE's use of such sites. The LESSEE shall repair damage to such areas caused by CONSTRUCTION, operation, maintenance, or TERMINATION of the PIPELINE SYSTEM to the satisfaction of the COMMISSIONER as stated in writing.

2.15.5.1.6 The LESSEE shall not take water from FISH SPAWNING BEDS, FISH REARING AREAS, and OVERWINTERING AREAS or waters that directly replenish those areas during critical periods that will be defined by the COMMISSIONER, unless otherwise approved by the COMMISSIONER.

2.15.5.2 Zones of Restricted Activities

2.15.5.2.1 Activities of the LESSEE in connection with CONSTRUCTION, operation, maintenance and TERMINATION of the PIPELINE SYSTEM in key fish and wildlife areas and in specific areas where threatened or endangered species of animals are found may be restricted by the COMMISSIONER during periods of fish and wildlife breeding, nesting, spawning, lambing and calving activity, over-wintering, and during major migrations of fish and wildlife. The COMMISSIONER shall provide the LESSEE written notice of such restrictive action. At least annually, and as far in advance of such restrictions as is possible, the COMMISSIONER shall furnish the LESSEE an updated list of those areas where such actions may be required, together with anticipated dates of restriction.

2.15.5.3 Big Game Movements

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2.15.5.3.1 The LESSEE shall design, construct and maintain both the buried and above ground sections of the PIPELINE so as to assure free passage and movement of big game animals.

2.15.5.4 Hunting, Fishing, and Trapping

2.15.5.4.1 The LESSEE shall inform its employees, agents, contractors, subcontractors and their employees of applicable laws and regulations relating to hunting, fishing, trapping and feeding of animals.

2.15.6 Disturbance or Use of Natural Waters

2.15.6.1 All activities of the LESSEE in connection with the PIPELINE SYSTEM that may create new lakes, drain existing lakes, significantly divert natural drainages and surface runoff, permanently change stream or ground water hydrology, or disturb significant areas of streambeds are prohibited unless such activities, along with necessary mitigation measures, are approved in writing by the COMMISSIONER.

2.15.6.2 The LESSEE shall not develop or utilize any wells or surface water sources for the CONSTRUCTION, operation, maintenance and TERMINATION of the PIPELINE SYSTEM without the prior written approval of the COMMISSIONER.

2.15.7 Off RIGHT-OF-WAY Traffic

2.15.7.1 Except for generally permitted activities, the LESSEE shall not operate mobile ground equipment on STATE LANDS off the RIGHT-OF-WAY or off any roads or other authorized areas unless approved in writing by the COMMISSIONER or when necessary to prevent immediate harm to any PERSON or property.

2.15.8 Visual Resources

2.15.8.1 The LESSEE shall consider visual resources in planning, CONSTRUCTION, operation and TERMINATION of the PIPELINE SYSTEM. The LESSEE shall prepare a visual resource plan for the PIPELINE SYSTEM in accordance with Stipulation 2.5.1

2.15.9 Use of Explosives

2.15.9.1 The LESSEE shall submit a plan for storage and use of explosives, including but not limited to blasting techniques, to the COMMISSIONER for approval in accordance with Stipulation 2.5.1.

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- 2.15.9.2 No blasting shall be done under water or within one-quarter (1/4) mile of streams or lakes with identified fisheries or wildlife resources without written approval of the COMMISSIONER.
- 2.15.9.3 Timing and location of blasting shall be approved by the COMMISSIONER.
- 2.15.10 Stabilization, REVEGETATION, and RESTORATION of Disturbed Areas
- 2.15.10.1 Upon completion of use, the LESSEE shall restore all areas of STATE LANDS disturbed by it, in accordance with schedules approved by the COMMISSIONER and approved plans required under Stipulation 2.5.1. RESTORATION performed by the LESSEE shall be approved in writing by the COMMISSIONER.
- 2.15.10.2 Unless otherwise directed by the COMMISSIONER, all disturbed areas of STATE LANDS shall be left in a stabilized condition, and erosion will be minimized through such means as adequately designed and constructed water-bars, REVEGETATION and chemical surface control. Culverts and bridges shall be removed, and slopes shall be restored by the LESSEE in a manner satisfactory to the COMMISSIONER.
- 2.15.10.3 REVEGETATION of disturbed areas of STATE LANDS shall be accomplished as soon as practicable in accordance with plans and schedules required under Stipulation 2.5.1. The results of REVEGETATION must be satisfactory to the COMMISSIONER as stated in writing.
- 2.15.10.4 The LESSEE shall dispose of all materials from roads, haul ramps, berms, dikes, and other earthen structures it has placed on STATE LANDS, in accordance with approved RESTORATION plans unless otherwise directed by the COMMISSIONER.
- 2.15.10.5 Pending RESTORATION of a disturbed area of STATE LANDS, the LESSEE shall maintain the area in a stabilized condition satisfactory to the COMMISSIONER.
- 2.15.10.6 Upon completion of RESTORATION of an area of STATE LANDS, the LESSEE shall remove all equipment and supplies from that area in accordance with approved RESTORATION plans unless otherwise directed by the COMMISSIONER.
- 2.15.10.7 The LESSEE shall maintain all restored areas of STATE LANDS in accordance with approved plans required under Stipulation 2.5.1 until released by the COMMISSIONER.

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2.15.11 Reporting, Prevention, Control, Cleanup and Disposal of Oil and HAZARDOUS SUBSTANCES Discharges

2.15.11.1 The LESSEE shall give notice in accordance with applicable law of any spill, leakage, or discharge of oil or other HAZARDOUS SUBSTANCES in connection with the CONSTRUCTION, operation, maintenance or TERMINATION of the PIPELINE SYSTEM to:

- (1) the COMMISSIONER and
- (2) such other State and Federal officials as are required by law to be given such notice.

Any oral notice shall be confirmed in writing within twenty-four (24) hours.

2.15.11.2 The LESSEE shall submit an oil and HAZARDOUS SUBSTANCE control, cleanup and disposal plan to the COMMISSIONER in accordance with Stipulation 2.5.1, and where applicable, in accordance with 40 CFR Part 112. The plan shall conform to this stipulation and shall outline all areas where oil and/or HAZARDOUS SUBSTANCES are stored, utilized, transported or distributed. The plan shall address fuel distribution systems, storage and containment, containerized products, leak detection systems, handling procedures, training programs, provisions for collection, storage and ultimate disposal of WASTE oil, cleanup methods, and disposal sites. The plan shall be approved in writing by the COMMISSIONER and the LESSEE shall demonstrate its capability and readiness to execute the plan to the satisfaction of the COMMISSIONER.

2.16 Cultural Resources

2.16.1 The LESSEE shall undertake the affirmative responsibility to identify, protect and preserve cultural, historic, prehistoric and archaeological resources that may be impacted by its activities in the overall CONSTRUCTION project in the State of Alaska on both Federal and non-Federal lands consistent with the National Historic Preservation Act of 1966, as amended, 16 U.S.C. Section 470, et seq., the Archaeological and Historic Act of 1974, 16 U.S.C. Section 469, et seq., and the implementing procedures of the Advisory Council on Historic Preservation, 36 CFR Part 800. This responsibility will be executed in a manner consistent with the terms of a Memorandum of Agreement, under Section 106 of the National Historic Preservation Act of 1966, 16 U.S.C. Section 470f, as amended, between the Advisory Council on Historic Preservation, the State Historic

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Preservation Officer, and appropriate State and Federal officials, and developed in consultation with the LESSEE. The terms of such Memorandum of Agreement, except as otherwise mandated by law, shall not compel a change in the basic nature and GENERAL ROUTE of the approved PIPELINE SYSTEM or otherwise prevent or impair in any significant respect the expeditious CONSTRUCTION and initial operation of the PIPELINE SYSTEM.

2.16.2 In addition to the requirements specifically set forth in these stipulations, the LESSEE shall comply with the FERC “Guidelines for Reporting on Cultural Resources Investigations for Pipeline Projects,” as may be modified from time to time. These guidelines are hereby incorporated by reference.

2.17 Technical

2.17.1 PIPELINE SYSTEM Standards

2.17.1.1 General Standards

2.17.1.1.1 All design, including selection of material, and CONSTRUCTION, operation, maintenance and TERMINATION practices employed with respect to the PIPELINE SYSTEM shall be in accordance with sound engineering practices and, with regard to the PIPELINE, shall meet or exceed the Department of Transportation Regulations, 49 CFR, Part 191, "Reports of Leaks" and Part 192, “Transportation of Natural and Other Gas by Pipelines: Minimum Federal Safety Standards.”

2.17.1.1.2 Requirements in addition to those set forth in the above minimum standards may be imposed by the COMMISSIONER as necessary to reflect the impact of sub-arctic and arctic environments. The COMMISSIONER will make every effort to identify such additional requirements during the design phase.

2.17.1.2 Specific Standards

2.17.1.2.1 The PIPELINE design shall provide for sectionalizing block valves, protective devices to prevent over-pressuring, and other safety devices installed at locations required by 49 CFR Part 192, or as may be designated by the COMMISSIONER during the DESIGN CRITERIA reviews to accommodate potentially hazardous areas, other facilities and environmental values.

2.17.1.2.2 The LESSEE shall inspect one-hundred percent (100%) of the main line girth welds using approved non-destructive inspection techniques and assure compliance with

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defect acceptability standards in API 1104 Section 9. Acceptable non-destructive inspection techniques are Radiographic Testing (X-Ray method) and/or Ultrasonic Testing (automated method), using APT 1104 or equivalent, as approved by the COMMISSIONER. Non-destructive inspection records for all welds shall be maintained for the duration of the LEASE. Where automated Ultrasonic Testing is used, the LESSEE shall maintain the equipment within the manufacturer's recommended calibration, periodically test it against a standard, and ensure it properly functions under all environmental conditions encountered during CONSTRUCTION and repair.

2.17.1.2.3 The PIPELINE design for CONSTRUCTION in environmentally sensitive areas designated by the COMMISSIONER shall provide for minimum maintenance needs to reduce re-entry requirements.

2.17.1.2.4 All practicable means shall be utilized to minimize injury to the ground organic layer.

2.17.1.2.5 Welder qualification tests shall be conducted in accordance with 49 CFR Section 192.227.

2.17.1.2.6 All CONSTRUCTION, operation, maintenance and TERMINATION activities in connection with the PIPELINE SYSTEM shall be conducted so as to avoid or minimize thermal changes. All working platforms, pads, fills and other surface modifications shall be planned and executed in such a way that any resulting alteration of permafrost will not jeopardize PIPELINE integrity and the surrounding environment.

2.17.1.2.7 A monitoring program shall be developed by the LESSEE as part of the surveillance and maintenance plan required by Stipulation 2.5.1 which shall identify any PIPELINE movement that may affect PIPELINE integrity, resulting from frost heave, settlement or seismic forces. This program, including baseline data, shall be finalized and operational prior to transportation of NATURAL GAS through the PIPELINE.

2.17.2 Earthquakes and Fault Zones

2.17.2.1 Earthquakes

2.17.2.1.1 Seismic design of the PIPELINE shall be performed in accordance with the DESIGN CRITERIA and utilize the BEST PRACTICABLE TECHNOLOGY AVAILABLE to protect the PIPELINE from the effects (including seismic shaking, ground deformation and earthquake-induced mass movements) of earthquakes.

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2.17.2.1.2 The LESSEE shall provide a seismic monitoring system, to be approved by the COMMISSIONER, and shall ensure there are adequate procedures for the safe shutdown of the PIPELINE under seismic conditions that may affect PIPELINE integrity. Such procedures, to be considered adequate, shall include but not necessarily be limited to:

- (1) communication capability with all key operating control points on the PIPELINE SYSTEM, the NATURAL GAS processing plant, and other parties with seismic monitoring capabilities as appropriate;
- (2) a control center and alternate for the PIPELINE SYSTEM;
- (3) operating procedures establishing the actions to be taken in the event of seismic conditions that may affect PIPELINE integrity; and
- (4) seismic sensors as necessary to supplement existing monitoring capabilities.

2.17.2.2 Fault Zones

2.17.2.2.1 Minimum DESIGN CRITERIA for any portion of the PIPELINE SYSTEM traversing a fault zone that is interpreted by the COMMISSIONER as active shall be: (1) that the PIPELINE resist failure resulting in line rupture from maximum anticipated horizontal and/or vertical displacement in the foundation material anywhere within the fault zone during the life of the PIPELINE; and (2) that no storage tank or compressor station be located within the fault zone unless otherwise approved by the COMMISSIONER.

2.17.3 Slope Stability

2.17.3.1 Areas subject to mudflows, landslides, avalanches, rock falls, and other types of mass movements shall be avoided where practicable in locating the PIPELINE SYSTEM. Where such avoidance is not practicable, the PIPELINE SYSTEM design, based upon detailed field investigations and analyses, shall provide measures to prevent the occurrence of, or protect the PIPELINE SYSTEM from, the effects of mass movement. The PIPELINE SYSTEM shall be designed to protect existing facilities, including the TAPS, from the effects of mass movement caused by the LESSEE's activities or the activities of its agents, employees, contractors (including subcontractors) and the employees of each of them and shall not adversely affect slope stability protection measures of existing structures.

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2.17.4 Stream and Floodplain Crossings

2.17.4.1 General

2.17.4.1.1 The PIPELINE SYSTEM shall be designed to minimize the number of stream and WETLAND crossings and to include, but not be limited to, consideration of aufeis development, erosion and sedimentation, restriction of natural meander, or alteration of the physical or chemical nature of the water body, and the effect of any alteration in these factors caused by the LESSEE's activities or the activities of its contractors (including subcontractors) and the employees of each of them upon existing facilities including the TAPS and HIGHWAYS.

2.17.4.1.2 The PIPELINE SYSTEM shall be designed to withstand or accommodate the effects (including runoff, stream and floodplain erosion, meander cutoffs, lateral migration, ice jams, and icings) of those meteorologic and hydrologic (including surface and subsurface) conditions considered characteristic for each hydrologic region. For stream crossings and portions of the PIPELINE within the floodplain, the following standards and those in Stipulations 2.17.4.1.3 through 2.17.4.1.8 shall apply to such PIPELINE design.

2.17.4.1.3 The design flood shall be based on the concept of the "Standard Project Flood" as defined in Corps of Engineers Bulletin 52-8, Part 1, unless otherwise approved by the COMMISSIONER.

2.17.4.1.4 The depth of channel scour shall be established by appropriate field investigations and theoretical calculations using those combinations of water velocity and depth that yield the maximum value. At the point of maximum scour, the cover over the top of the pipe shall be at least twenty (20) percent of the computed scour, but not less than four (4) feet.

2.17.4.1.5 For overhead crossings, analysis shall be made to ensure that support structures are adequately protected from the effects of scour, channel migration, undercutting, ice forces and degradation of permafrost and other external and internal loads.

2.17.4.1.6 To avoid channelization along the pipe, appropriate design and CONSTRUCTION procedures will be included in the plans required in Stipulation 2.5.1 and shall be used wherever there is potential for such channelization.

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2.17.4.1.7 Methods of constructing stream crossings, including horizontal directional drilling or excavation and backfill of pipe trench near and through stream-banks and existing river-training structures shall be approved in writing by the COMMISSIONER prior to initiation of CONSTRUCTION.

2.17.4.1.8 Low water crossings (fords across streams or rivers where any mobile ground equipment is moved on the streambed) shall be designed, constructed, maintained, and restored to standards approved in writing by the COMMISSIONER.

2.17.4.2 Erosion

2.17.4.2.1 To prevent project-related erosion, the COMMISSIONER may direct the LESSEE to stabilize the culvert inlet and outlet areas by appropriate methods, e.g., by the use of settling basins or riprap and/or armor.

2.17.4.2.2 Slopes of cuts through stream banks shall be designed and constructed to minimize erosion and prevent slides.

2.17.4.2.3 Erosion control procedures shall accommodate and be based on the runoff produced by the rainfall rate and snow melt combination characteristic of the region. The procedures shall also accommodate effects that result from thawing produced by flowing or ponded water on permafrost terrain and the effects of ice.

2.17.4.3 Culverts and Bridges

2.17.4.3.1 Culverts and bridges necessary for operation and maintenance of the PIPELINE shall be designed at a minimum to accommodate a fifty (50) year flood in accordance with criteria established by the American Association of State Highway Officials and the Federal Highway Administration and endorsed by the State of Alaska Department of Transportation and Public Facilities.

2.17.4.3.2 Culverts necessary for CONSTRUCTION or operation of the PIPELINE SYSTEM shall be installed to ensure free flow of the waterbody and free passage of fish in fish streams identified by the COMMISSIONER.

2.17.5 PIPELINE Corrosion

2.17.5.1 The LESSEE shall provide plans, as required by Stipulation 2.5.1, for corrosion resistant design and methods for early detection of corrosion in accordance with 49 CFR Part 192. This shall include consideration of:

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- (1) PIPELINE material to be used and information on its particular suitability for the environment involved;
- (2) details on the external pipe protection to be provided (coating, wrapping, etc.), including information on variations of the coating process to cope with variations in environmental factors along the PIPELINE route;
- (3) plans for cathodic protection including details of impressed current sources and controls to ensure continuous maintenance of adequate protection over the entire surface of the pipe;
- (4) details for plans for monitoring cathodic protection current including spacing of current monitors;
- (5) provision for periodic intensive surveys of trouble spots, regular preventive maintenance surveys, and special provisions for abnormal potential patterns especially those resulting from other PIPELINES or cables; and
- (6) information on any precautions that may be required to prevent internal corrosion of the PIPELINE.

2.17.6 CONSTRUCTION MODE Requirements

2.17.6.1 The selection of the CONSTRUCTION MODE shall be governed by the results of adequate geotechnical field exploration and testing programs. Comprehensive analyses shall be made to assure that PIPELINE integrity will be maintained and that CONSTRUCTION or operation of the PIPELINE will not cause or exacerbate major terrain disturbances or major changes to water movement. Analysis shall consider stresses and strains on the PIPELINE by internal and external loading and shall include, but not be limited to, total and differential heaving, permafrost (especially liquefaction and differential settlement after thawing), frost action, seismic loading, slope stability, active faults, swelling soils, subsidence, erosion, flooding, icing, water movement and differential temperature stress. The FINAL DESIGN for the CONSTRUCTION MODE shall be submitted to the COMMISSIONER for approval prior to pipe installation, in accordance with Stipulation 2.4.1.

2.18 NOTICE TO PROCEED and Other Written Authorizations

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2.18.1 The procedures set out under Stipulation 2.18 provide for an umbrella process that is intended to ensure that, for each FIELD ACTIVITY proposed to be undertaken, all regulatory reviews, public processes, and permits are in place prior to the start of such FIELD ACTIVITY. Pursuant to these procedures, certain significant FIELD ACTIVITIES (e.g., major activities involving CONSTRUCTION of the PIPELINE SYSTEM) will require a NOTICE TO PROCEED from the COMMISSIONER, while other more minor FIELD ACTIVITIES may require other written authorizations from the COMMISSIONER. Certain FIELD ACTIVITIES may require written authorizations by other State and Federal agencies under State or Federal statutes or regulation, either alone or in addition to an authorization from the COMMISSIONER.

2.18.1.1 The COMMISSIONER shall have the discretion to determine whether an activity or change to the PIPELINE SYSTEM is significant and will require the NOTICE TO PROCEED process, or whether the FIELD ACTIVITY or change may be initiated and undertaken pursuant to some other appropriate written authorization by the COMMISSIONER. Except for *de minimis* activities, the LESSEE shall obtain a NOTICE TO PROCEED from the COMMISSIONER for the following:

- (1) Activities associated with CONSTRUCTION of the PIPELINE SYSTEM.
- (2) Any change to a critical system. A critical systems list shall be developed and maintained by the LESSEE and approved by the COMMISSIONER.
- (3) Any significant change to the PIPELINE SYSTEM, as determined by the LESSEE's management of change or hazards analysis procedures.
- (4) An amendment to the RIGHT-OF-WAY LEASE or new rights-of-way associated with the PIPELINE SYSTEM.
- (5) TERMINATION-related activities.

2.18.1.2 The LESSEE shall not initiate a proposed FIELD ACTIVITY on STATE LANDS pursuant to this LEASE without a NOTICE TO PROCEED or other appropriate written authorization for such activity issued by the COMMISSIONER. Any NOTICE TO PROCEED or other written authorization shall permit FIELD ACTIVITIES only as therein expressly stated and only for the particular FIELD ACTIVITIES therein described. A NOTICE TO PROCEED or other written authorization may contain such

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site-specific terms and conditions as the COMMISSIONER deems necessary to implement this LEASE, including the stipulations hereto, and the LESSEE will comply with such terms and conditions, consistent with applicable State and Federal statutes, regulations, and orders or permits thereunder.

2.18.1.3 Following appropriate consultation with the LESSEE, and when other enforcement actions are inadequate or have not been successful, the COMMISSIONER may, by written order, revoke or suspend in whole or in part any NOTICE TO PROCEED or other written authorization which has been issued by the COMMISSIONER when, in the COMMISSIONER's judgment, unforeseen conditions later arising require alterations in the NOTICE TO PROCEED or other written authorization in order to:

- (1) remove hazards to public health and safety;
- (2) protect or maintain integrity of the PIPELINE SYSTEM;
- (3) control or prevent significant damage to the environment, including but not limited to fish and wildlife populations and their habitats;
- (4) protect or maintain stability of foundation and earth materials; or
- (5) prevent avoidable conflict with the human community along the PIPELINE route.

The COMMISSIONER shall within three (3) business days follow his revocation or suspension order with a more detailed written statement of the reason for this action.

2.18.2 Procedures Governing NOTICES TO PROCEED

2.18.2.1 Unless clearly inapplicable, all CONSTRUCTION of the PIPELINE conducted on STATE LANDS undertaken by the LESSEE, its agents, and contractors, and the employees of each of them, shall comply in all respects with the provisions of the specific NOTICE TO PROCEED that is issued by the COMMISSIONER as provided in this section, to the extent the provision of the specific NOTICE TO PROCEED is consistent with applicable State and Federal statutes, regulations, and orders or permits thereunder.

2.18.2.2 Prior to submission of an application for a NOTICE TO PROCEED, the LESSEE and the COMMISSIONER will agree to a schedule for the submission, review, and approval of such applications and on the scope of information to be contained therein.

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The schedule shall allow the COMMISSIONER thirty (30) days for review of each complete application for a NOTICE TO PROCEED unless the COMMISSIONER gives written notice that either more or less time is needed.

- 2.18.2.3 Each application for a NOTICE TO PROCEED shall be supported by:
- (1) a FINAL DESIGN for the CONSTRUCTION SEGMENT or FIELD ACTIVITIES to be covered by the NOTICE TO PROCEED, with detailed and/or site-specific plans as indicated in Stipulation 2.5.1 and computations, as may be requested by the COMMISSIONER, supporting the design;
 - (2) all applicable reports and results of socioeconomic and environmental studies and land use impact analyses for the alignment and siting of RELATED FACILITIES on STATE LANDS, if requested by the COMMISSIONER;
 - (3) all requirements stated in Stipulation 2.4.1 with respect to the CONSTRUCTION SEGMENT or FIELD ACTIVITIES to be covered by the NOTICE TO PROCEED;
 - (4) a map or maps, prepared in such manner as shall be acceptable to the COMMISSIONER, depicting the proposed location of:
 - (a) the boundaries of all associated temporary use areas;
 - (b) all improvements, buried or aboveground, that are to be constructed;
 - (c) the relative location of any part of a HIGHWAY or the TAPS that is proximate to the proposed improvements; and
 - (d) the relative location of resident populations including property, habitations, transportation and public facilities that are proximate to the proposed improvements.
 - (5) justification statements for all proposed design features or activities which may not be in conformance with the LEASE stipulations; and
 - (6) an analysis which addresses the effects, if any, of PIPELINE SYSTEM design and proposed activities on the HIGHWAY or TAPS and other existing facilities and, where necessary, which describes systems designed to ensure protection of the HIGHWAY, TAPS and other existing facilities from damage arising from the

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CONSTRUCTION, operation, maintenance and TERMINATION of the PIPELINE SYSTEM.

2.18.2.4 The COMMISSIONER shall review each application for a NOTICE TO PROCEED and all data submitted in connection therewith in accordance with schedules agreed to pursuant to Stipulation 2.18.3.1.

2.18.2.5 The COMMISSIONER shall issue a NOTICE TO PROCEED only when, in the COMMISSIONER's judgment, applicable FINAL DESIGNS and other submissions required by Stipulations 2.5.1 and 2.5.3 conform to this section or are otherwise justified under Stipulation 2.18.2.3.

2.18.2.6 Where appropriate, a NOTICE TO PROCEED will contain specific provisions that must be satisfied prior to initiation of surface disturbing activities. When a NOTICE TO PROCEED contains such provisions (e.g., field approval), the initiation of surface disturbing FIELD ACTIVITIES will be prohibited prior to written field verification by the COMMISSIONER.

2.18.2.7 Before applying for a NOTICE TO PROCEED for a CONSTRUCTION SEGMENT, the LESSEE shall locate and clearly mark on the ground the proposed centerline of the line of pipe in such manner as shall be acceptable to the COMMISSIONER, the location of all relevant RELATED FACILITIES and, where applicable, clearing limits and the location of temporary use areas in the proposed work area. When the LESSEE is engaged in activities proximate to the HIGHWAY or TAPS or, in any event, when such activities could pose a threat to the integrity of the HIGHWAY or TAPS, the LESSEE shall arrange with the owners of the TAPS or the DOT&PF, as the case may be, in accordance with industry practice, to survey and clearly mark on the ground relevant parts of the HIGHWAY or TAPS, including RELATED FACILITIES.

2.18.3 Procedures Governing Other Written Authorizations by the COMMISSIONER

2.18.3.1 Promptly after the COMMISSIONER determines, pursuant to Stipulation 2.18.1.1, that an activity or change may be initiated and undertaken pursuant to a written authorization from the COMMISSIONER other than a NOTICE TO PROCEED, the LESSEE and the COMMISSIONER will agree to a schedule for the submission, review, and approval of the request for such authorization, and on the scope of information to be

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contained therein. Such agreement may be reached verbally or in writing. The schedule shall allow the COMMISSIONER a reasonable time for review of the request, while ensuring a prompt decision on the request.

2.18.4 Procedures Governing Written Authorization by Other State and Federal Agencies Required by Statute or Regulation

2.18.4.1 In addition to authorizations by the COMMISSIONER addressed in Stipulations 2.18.1, 2.18.2 and 2.18.3, written authorization by other State and Federal agencies may be required under State or Federal statutes or regulations to authorize a particular FIELD ACTIVITY. The procedures for obtaining such written authorizations shall be those applicable to the particular statutory or regulatory authorities.

3.0 PRE-CONSTRUCTION REQUIREMENTS

3.1 HIGHWAY Use Agreement

3.1.1 Not later than one (1) year prior to commencement of CONSTRUCTION, the LESSEE shall enter into a comprehensive agreement with DOT&PF for the use of HIGHWAYS and other facilities under the jurisdiction of the DOT&PF. This agreement shall address:

- (1) Compensation for costs of increased maintenance or repair of facilities and HIGHWAYS;
- (2) Permits;
- (3) Costs of permits, design/plan reviews, on-site inspections;
- (4) Insurance, indemnification and defense of third party claims;
- (5) Safety issues;
- (6) Use of Yukon River Bridge;

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- (7) Conflicts with existing permit holder or utility uses;
- (8) Relocation of HIGHWAYS or utilities;
- (9) Security measures;
- (10) Environmental protection, clean-up or mitigation during CONSTRUCTION;
- (11) Use of airports and airport facilities;
- (12) Atigun Pass issues;
- (13) Traffic controls;
- (14) Encroachments;
- (15) HIGHWAY integrity, repair and maintenance;
- (16) Mineral/material removal and use;
- (17) DOT&PF access to CONSTRUCTION sites;
- (18) Coordination and scheduling of CONSTRUCTION activities;
- (19) Coordination with approvals by other affected agencies or jurisdictions;
- (20) Potential offset of existing HIGHWAY rights-of-way; and

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- (21) Other issues relating to LESSEE's use of the DOT&PF rights-of-way, transportation facilities or HIGHWAYS or impacts related to CONSTRUCTION.
- 3.1.2 Prior to CONSTRUCTION, the LESSEE shall submit to the COMMISSIONER and DOT&PF for review and approval, a mile-by-mile final PIPELINE alignment and design for those portions of the PIPELINE proposed to be located within the HIGHWAY rights-of-way.
- 3.1.3 The LESSEE shall provide written notice to DOT&PF of any request for an offset of an existing HIGHWAY right-of-way, at least one hundred (100) days in advance of the date a decision is required. DOT&PF will review the request and provide the LESSEE with a decision within ninety (90) days of receipt. Approval by DOT&PF will not be unreasonably withheld, however, DOT&PF may place conditions on any approval found necessary to protect public safety or other STATE interests.
- 3.1.4 The LESSEE shall, at its sole cost, conduct investigations or research, or provide data, reports, plans, designs or information necessary for DOT&PF to adequately evaluate CONSTRUCTION or other issues related to any approvals or permits sought by the LESSEE from DOT&PF.
- 3.1.5 In the design, materials, CONSTRUCTION and operation of the PIPELINE SYSTEM, including all RELATED FACILITIES placed within or adjacent to the DOT&PF rights-of-way, the LESSEE shall comply with the minimum requirements established by 49 CFR Section 192(I)(D), and all standards, requirements, or directives established by Alaska statute, regulation, policy and procedure, or determination by the DOT&PF, COMMISSIONER, or other AGENCY or entity with jurisdiction or approval authority over the use of said rights-of-way or adjacent lands.
- 3.2 Submission of Required Plans
- 3.2.1 Prior to the commencement of CONSTRUCTION, the LESSEE shall submit to the COMMISSIONER the DESIGN CRITERIA, plans and programs required pursuant to Stipulation 2.5.1. These plans shall include all environmental, engineering and CONSTRUCTION-related activities and contingencies which reasonably may be anticipated in connection with the project. Plans shall include or address:
- (1) data collection activities;

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- (2) submittal and approval activities;
- (3) CONSTRUCTION and post-CONSTRUCTION activities;
- (4) schedule control techniques;
- (5) submittal of NOTICE TO PROCEED applications; and
- (6) other pertinent data.

3.2.2 These plans shall be in sufficient detail and scope to permit the COMMISSIONER to determine if the management approach demonstrated in these plans will facilitate the cost-effective, environmentally sound, and timely CONSTRUCTION of the project consistent with the protection of public health and safety.

3.2.3 These plans shall indicate current and planned activities at intervals approved by the COMMISSIONER.

4.0 CONSTRUCTION

4.1 Temporary Suspension Orders (Stop Orders)

4.1.1 With respect to CONSTRUCTION activities conducted under a NOTICE TO PROCEED or other written authorization, field representatives expressly designated in writing by the COMMISSIONER may issue a Temporary Suspension Order in accordance with Section 15 of this LEASE at the site of an activity to a field representative of the LESSEE designated pursuant to Stipulation 2.1.2. The LESSEE shall cease that particular activity immediately. Except in emergencies, all Temporary Suspension Orders shall be in writing and, when issued orally, shall be confirmed in writing within twenty-four (24) hours. The Temporary Suspension Order or any written confirmation of the order shall specify:

- (1) the specific CONSTRUCTION activity or activities which must be stopped;
- (2) the reason for issuance of the order, including a description of the serious and immediate problem which requires the cessation of the particular CONSTRUCTION activity;
- (3) the name of the designated field representative of the COMMISSIONER issuing the order;
- (4) the name of the designated field representative of the LESSEE to whom the order is issued; and

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- (5) the time and date of the order, and the site of
CONSTRUCTION activity at which it was issued.

4.2 Fault Displacements

- 4.2.1 Prior to applying for a NOTICE TO PROCEED for any CONSTRUCTION SEGMENT, the LESSEE shall satisfy the COMMISSIONER that all recognizable or reasonably inferred faults or fault zones along the alignment within that CONSTRUCTION SEGMENT have been identified and delineated and any risk of major PIPELINE damage resulting from fault movement and ground deformation has been adequately assessed and provided for in the design of the PIPELINE SYSTEM for that CONSTRUCTION SEGMENT. Evaluation of said risk shall be based on geologic, geomorphic, geodetic, seismic, and other appropriate scientific evidence of past or present fault behavior and shall be compatible with the design earthquakes tabulated in Stipulation 2.17.2.1 and with observed relationships between earthquake magnitude and extent and amount of deformation and fault slip within the fault zone.

4.3 Regulation of Access during CONSTRUCTION

- 4.3.1 During CONSTRUCTION activities, the LESSEE may regulate or prohibit public access to or upon any road being used for such activity. The LESSEE shall provide appropriate warnings, flagmen, barricades, and other safety measures when the LESSEE is using roads or regulating public access to or upon roads.
- 4.3.2 During CONSTRUCTION of the PIPELINE, the LESSEE shall, where required, provide alternative routes for existing roads and trails at locations and to standards as determined by the COMMISSIONER, whether or not these roads or trails are recorded.
- 4.3.3 The LESSEE shall make provisions for suitable permanent crossings prior to completion of a CONSTRUCTION SEGMENT for the public at locations designated by the COMMISSIONER, and to the standards designated in writing by the COMMISSIONER, where the RIGHT-OF-WAY crosses existing roads, trails, or other existing rights of way, including those validly established pursuant to 43 U.S.C. Section 932 prior to October 21, 1976.

4.4 CONSTRUCTION-Specific Environmental Requirements

4.4.1 Buffer Strips

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4.4.1.1 Where the PIPELINE RIGHT-OF-WAY crosses HIGHWAYS and other roads designated by the COMMISSIONER, the PIPELINE shall be clearly marked as required in 49 CFR Section 192.707 and a screen of vegetation native to the adjacent areas shall be established over disturbed areas unless otherwise approved in writing by the COMMISSIONER.

4.4.1.2 The PIPELINE SYSTEM shall be located so as to provide buffer strips of undisturbed land at least five hundred (500) feet wide between the PIPELINE SYSTEM and streams, lakes, and WETLANDS unless otherwise approved in writing by the COMMISSIONER.

4.4.1.3 Undisturbed buffer strips at least five hundred (500) feet wide will be maintained between material sites and HIGHWAYS unless otherwise approved in writing by the COMMISSIONER.

4.4.2. Purchase of Materials and Timber

4.4.2.1 If the LESSEE requires mineral materials from lands of the State, it shall make application to purchase such materials in accordance with appropriate State laws and regulations. No materials may be removed by the LESSEE without written approval of the COMMISSIONER. Application to purchase merchantable timber shall be made in accordance with appropriate State laws and regulations.

4.4.3 Layout of Material Sites

4.4.3.1 Materials site boundaries shall be shaped in such a manner as to blend with surrounding natural land patterns. Regardless of the layout of material sites, primary emphasis shall be placed on prevention of soil erosion, damage to vegetation, and destruction of fish and wildlife habitat.

4.4.4 Erosion and Sedimentation Control

4.4.4.1 General

4.4.4.1.1 In undertaking CONSTRUCTION-related PIPELINE ACTIVITIES, the LESSEE shall implement erosion control measures, including the use of erosion control structures, if necessary, in accordance with Stipulation 2.15.4.2.

4.4.4.1.2 In addition to the requirements specifically set forth in these stipulations, the LESSEE shall comply with the FERC's "Upland Erosion Control, Revegetation, and

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Maintenance Plan,” as may be modified from time to time. The requirements of such plan are hereby incorporated by reference.

4.4.4.2 Utilization of Surface Materials in RESTORATION

4.4.4.2.1 Surface materials suitable for use in RESTORATION that are taken from disturbed areas shall be stockpiled and utilized during RESTORATION, unless otherwise approved in writing by the COMMISSIONER. Erosion and sediment control practices to be utilized shall be determined by the needs of specific sites and, as appropriate, shall include but not be limited to REVEGETATION, mulching, and placement of mat binders, soil binders, rock or gravel blankets or structures.

4.4.4.3 Crossing of Streams, Rivers, Floodplains and WETLANDS

4.4.4.3.1 The LESSEE shall minimize project-related erosion and sedimentation at stream, river and WETLANDS crossings and those parts of the PIPELINE SYSTEM within floodplains as provided in Stipulation 2.17.4.

4.4.4.3.2 Temporary access over stream banks for trenching activities shall be made through use of fill ramps rather than by cutting through stream banks, unless otherwise approved in writing by the COMMISSIONER. The LESSEE shall remove such ramps upon TERMINATION of seasonal or final use. Ramp materials shall be disposed of in a manner approved by the COMMISSIONER.

4.4.4.3.3 In addition to the requirements specifically set forth in these stipulations, the LESSEE shall comply with the FERC’s “Wetland and Waterbody Construction and Mitigation Procedures,” as may be modified from time to time. The requirements of such procedures are hereby incorporated by reference.

4.4.4.4 Excavated Material

4.4.4.4.1 Excavated material in excess of that required to backfill around any structure, including the pipe, shall be disposed of in accordance with the approved overburden and excess material disposal plan required in Stipulation 2.5.1.

4.4.4.4.2 Excavated materials shall not be stockpiled in rivers, streams or floodplains, or on ice unless approved in writing by the COMMISSIONER. In WETLANDS, stockpiling shall be in accordance with the plan required by Stipulation 2.5.1.

4.4.5 Clearing

4.4.5.1 Boundaries

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4.4.5.1.1 The LESSEE shall identify clearing boundaries on the ground which shall be approved by the COMMISSIONER prior to beginning clearing operations. All timber and other vegetative material outside clearing boundaries and all blazed, painted or posted trees which are on, or mark clearing boundaries, are reserved from cutting and removal with the exception of danger trees or snags designated by the LESEE and approved by the COMMISSIONER.

4.4.5.2 Clearing Procedures

4.4.5.2.1 All trees, snags, and other wood material cut in connection with clearing operations shall be cut so that the resulting stumps shall not be higher than six (6) inches measured from the ground on the uphill side.

4.4.5.2.2 All trees, snags and other wood material cut in connection with clearing operations shall be felled into the area within the clearing boundaries and away from watercourses.

4.4.5.2.3 Hand clearing shall be used in areas where the COMMISSIONER determines that use of heavy equipment would be detrimental to existing conditions.

4.4.5.2.4 All debris resulting from clearing operations and CONSTRUCTION that may block stream-flow, delay fish passage, contribute to flood damage, or result in streambed scour or erosion shall be removed within forty-eight (48) hours unless otherwise approved or directed by the COMMISSIONER.

4.4.5.3 Disposal of Clearing Debris

4.4.5.3.1 Disposal of vegetation, non-merchantable timber, overburden, slash and other materials removed during clearing operations shall be addressed in the plans required in Stipulation 2.5.1 and approved in writing by the COMMISSIONER.

4.4.6 Protection of Fish and Game

4.4.6.1 The LESSEE shall comply with the requirements of AS 41.14.840 – 41.14.900 with respect to the protection of fish and game in undertaking CONSTRUCTION activities. The LESSEE and the COMMISSIONER shall cooperate to determine whether any rivers, lakes, or streams, or parts thereof, that are not then listed in The Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes and its associated Atlas and that the LESSEE proposes to use, divert, obstruct, or change the flow of in connection with the CONSTRUCTION of the PIPELINE SYSTEM, should be nominated for and added to The Catalog of Waters Important for the Spawning, Rearing

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or Migration of Anadromous Fishes and its associated Atlas, in accordance with AS 41.14.870(a) and 11 AAC 195.010. With respect to any river, lake, or stream, or part thereof, that is not then listed in the Fish Distribution Database Atlas and Catalog referenced in this stipulation, the LESSEE and the COMMISSIONER may, in order to ensure the protection of anadromous fish and to facilitate the expeditious CONSTRUCTION of the PIPELINE SYSTEM, alternatively agree that they will treat the river, lake, or stream, or part thereof, as if it were included in the Fish Distribution Database Atlas and Catalog and that the LESSEE will comply with all applicable statutory and regulatory requirements requisite to such treatment with respect thereto.

4.4.6.2 The LESSEE shall prepare a Subsistence Use Plan describing methods to be employed during CONSTRUCTION and operation to minimize impacts on subsistence use on or near the RIGHT-OF-WAY.

5.0 OPERATIONS

5.1 General

5.1.1 All FIELD ACTIVITIES undertaken in connection with the operation and maintenance of the PIPELINE SYSTEM shall be conducted in accordance with the LEASE and these stipulations, and consistent with applicable State and Federal laws and regulations.

5.2 Conduct of Operations

5.2.1 The LESSEE shall perform PIPELINE SYSTEM operations in a safe and workmanlike manner so as to ensure protection of the environment and the safety and integrity of the PIPELINE and shall at all times employ qualified personnel and maintain equipment sufficient for that purpose. The LESSEE shall immediately notify the COMMISSIONER of any condition, problem, malfunction, or other occurrence which in any way threatens the safety or integrity of the PIPELINE, significant harm to the environment, or reasonably preventable conflicts with the human community proximate to the PIPELINE route. In addition, the LESSEE shall take all reasonable precautions to protect HIGHWAYS or TAPS from damage caused by the LESSEE during CONSTRUCTION, operation, maintenance and TERMINATION of the PIPELINE SYSTEM. The LESSEE shall notify the COMMISSIONER and the owners of the TAPS or the Alaska DOT&PF, as the case may be, of any such condition, problem, malfunction, or other occurrence

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with regard to the PIPELINE SYSTEM which in any way threatens the integrity of HIGHWAYS or TAPS.

5.3 Access for Maintenance and Surveillance

- 5.3.1 The LESSEE shall provide, as necessary, and maintain roads and airstrips, the number, location and standards of which shall be approved by the COMMISSIONER to provide for continuing maintenance and surveillance of the PIPELINE SYSTEM.

5.4 PIPELINE Contingency Plan

- 5.4.1 The LESSEE shall submit a PIPELINE contingency plan to the COMMISSIONER in accordance with Stipulation 2.5.1. The plan shall conform to the requirements of 49 CFR Sections 192.605 and 192.615 and shall outline the steps to be taken in the event of a failure, leak or explosion in the PIPELINE. The plan shall be approved in writing by the COMMISSIONER prior to PIPELINE startup and the LESSEE shall demonstrate its capability and readiness to execute the plan to the satisfaction of the COMMISSIONER.
- 5.4.2 The LESSEE shall, as appropriate, update the plan and methods of implementation thereof. Such updated plans shall be submitted to the COMMISSIONER for approval.

6 TERMINATION

6.1 General

- 6.1.1 Upon TERMINATION of the authorization of which these stipulations are a part, the LESSEE shall remove all improvements and equipment from the STATE LANDS, unless otherwise approved in writing by the COMMISSIONER, and RESTORATION which appropriately can be performed shall be completed to the satisfaction of the COMMISSIONER as required by Section 26 of the LEASE. Procedures to abandon a buried PIPELINE shall be in accordance with the requirements specified in 49 CFR Section 192.727 and applicable State and Federal laws and regulations.
- 6.1.2 All PIPELINE ACTIVITIES undertaken in connection with the TERMINATION of the PIPELINE SYSTEM shall be conducted in accordance with the LEASE and these stipulations, and consistent with applicable State and Federal laws and regulations.
- 6.1.3 Upon revocation or TERMINATION of the authorization of which these stipulations are a part, and consistent with applicable State and Federal laws and regulations, the LESSEE may abandon the PIPELINE in accordance with the requirements specified in 49 CFR Section 192.727 and other applicable State and Federal laws and regulations.